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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/706,060	11/03/2000	Norman C. Brackett	55,112 (1850)	6659

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EXAMINER

STEFANON, JUSTIN

ART UNIT

PAPER NUMBER

3682

DATE MAILED: 01/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/706,060

Applicant(s)

BRACKETT, NORMAN C.

Examiner

Justin Stefanon

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "flexible enough" in claim 6 is a relative term which renders the claim indefinite. The term "flexible enough" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. While Applicant specifies an initial tolerance of 35 mil for an interference fit between the outer rim and the flywheel ring, no tolerance is specified for the tolerance fit at operating speeds.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 6, and 12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent No. 5,962,941 to Serdar et al.

In reference to claims 1-3, Serdar discloses a stiff metallic hub 580 having a flywheel assembly which produces a critical velocity that exceeds the design operating

Art Unit: 3682

speed of the flywheel assembly, as disclosed in column 1, lines 66-7. The hub has a central core in tight interference fit with a rotary shaft 585, as seen in Figure 5, and an outer rim section 570 in tight interference fit with a composite fiber rim 556, described in column 5, lines 16-21, and a web section 584. The hub is fabricated from steel as described in column 5, lines 63-4.

In reference to claim 4, the web section comprises spokes 584, which are continuous in a radial direction from the hub to the outer rim.

In reference to claim 6, the outer rim section slidably engages the spoke, as described in column 6, lines 20-1, and is flexible enough to deform radially with the composite fiber rim.

In reference to claim 12, Serdar discloses at least one balancing rail 596 for balancing the flywheel, as described in column 6, lines 35-47.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5 and 7-11 rejected under 35 U.S.C. 103(a) as being unpatentable over Serdar, Jr. et al.

In reference to claim 5, Serdar discloses a hub with a critical velocity greater than the design operating speed of the flywheel assembly. While the reference is silent as to

the exact ratio of the critical velocity to the operating speed, it would have been obvious to one skilled in the art at the time the invention was made to make the critical speed at least 40% higher than the operating speed, in order to avoid increased excitation of the system as it approaches a resonant frequency.

In reference to claim 7, Serdar discloses in column 4, on line 20 an operating speed of 53,000 rpm. It would have been obvious to one skilled in the art at the time the invention was made to operate the system at about 22,500 rpm, in order to supply lesser power under reduced load, or during the period in which the flywheel is attaining its operating speed.

In reference to claims 8-11, the dimensions given in the claims depend upon the overall dimensions of the flywheel system as a whole. By changing the dimensions of the flywheel of Serdar, an engineer would modify the dimensions of the central core, the outer rim section, and the web section accordingly. It would have been obvious to one skilled in the art at the time the invention was made to change the size of the flywheel and hub of Serdar to fit in a smaller space, or to store more energy.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Serdar as applied to claim 2 above, and further in view of U.S. Patent No. 5,634,381 to Thoolen.

Serdar discloses the matter of claim 2, as discussed above, but does not disclose an axial stop to prevent the composite fiber rim from falling off of the outer rim during high speed operation. Thoolen discloses a hub 6 with an outer rim 10 in an interference fit with a rim 4 rotating at a high rotational speed. As seen in Figure 1, the

Art Unit: 3682

outer rim 10 includes an axial stop, which interfaces with part 20, and prevents the rim 4 from falling off the outer rim 10 during high speed operation.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References enclosed provide further disclosure of the invention of Serdar.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Stefanon whose telephone number is 703-305-1945. The examiner can normally be reached on Monday - Friday 6 - 3:30, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Bucci can be reached on 703-308-3668. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

js
January 13, 2002


DAVID FENSTERMACHER
PRIMARY EXAMINER
1/14/02